CLAIMS

1. A DNA containing uncoupling protein-2 (UCP-2) promoter region containing the regulator sequence.

2. A DNA described in claim 1 wherein the regulator sequence is a sequence containing peroxisome proliferator response element (PPRE).

3. A DNA described in claim 1 wherein the regulator sequence is a sequence containing CCAAT/enhancer binding protein (C/EBP) binding sequence.

4. A DNA described in claim 1 wherein the promoter region is a base sequence presented by position 1 to 2270 of SEQ ID NO: 1 or a base sequence containing a part of the said base sequence.

5. A recombinant vector containing a DNA described in claim 1.

6. A recombinant vector described in claim 5 containing a DNA containing a structural gene under control of UCP-2 promoter region containing a regulator sequence.

7. A transformant transformed by a recombinant vector described in claim 5.

8. A method for screening a compound or its salt that promotes or inhibits UCP-2 promoter activity characterized by use of a transformant described in claim 7.

9. A method for screening a compound or its salt that promotes or inhibits heat production characterized by

use of a transformant described in claim 7.

10. A method for screening an antiobestic drug, an antidiabetic drug, a depressor, an antihyperlipemic drug, and an antipyretic drug characterized by use of a transformant described in claim 7.

11. A kit for screening a compound or its salt that promotes or inhibits UCP-2 promoter activity characterized by use of a transformant described in claim 7.

12. A compound or its salt that promotes or inhibits UCP-2 promoter activity obtained using a screening method described in claim 8 or a screening kit described in claim 11.

13. A compound or its salt that promotes or inhibits heat production obtained using a screening method described in claim 9.

14. A pharmaceutical composition cntaining a compound or its salt that promotes or inhibits UCP-2 promoter activity obtained using a screening method described in claim 8 or a screening kit described in claim 11.

ABSTRACT

This invention provides a DNA containing UCP-2 promoter region containing the regulator sequence.

This invention relates to a DNA containing uncoupling protein-2 (UCP-2) promoter region containing the regulator sequence, a transformant transformed with the said DNA, a method for screening a compound or its salt that promotes or inhibits UCP-2 promoter activity characterized by use of the said transformant, a method for screening an antiobestic drug, an antidiabetic drug, a depressor, an antihyperlipemic drug, and an antipyretic drug characterized by use of the said transformant, a kit for screening a compound or its salt that promotes or inhibits UCP-2 promoter activity characterized by use of the said transformant, and pharmaceutical composition cntaining a compound or its salt that promotes or inhibits UCP-2 promoter activity obtained using the said screening method or the said screening kit.

Since UCP-2 promoter of this invention contains the regulator sequence, it has higher activity reflecting the in vivo UCP-2 expression system in human than the promoter lacking the regulator sequence. Therefore, the UCP-2 promoter of this invention can be used as a promoter inserted in vectors for treatment of human diseases and drug screening systems under conditions closer to in vivo environment in human.